

USSR

UDC 669.205'28':621.78

FEDOTOV, S. G.; KONSTANTINOV, K. M., SINODOVA, Ye. P., and
KVASOVA, N. F., Moscow

"Decomposition of Molybdenum-Titanate Martensite"

Moscow, Izvestiya Akademii Nauk SSSR, No 5, 1973,
pp 225-230

Abstract: A study made of the decomposition processes of super-saturated α -solid solutions of the Ti-Mo system in the whole range of their development is based on different methods of physico-chemical analysis supplemented by structural investigations. The effect of martensite decomposition processes on the mechanical properties was investigated on alloys with 8.0 and 8.6 wt% Mo; their change in Young's modulus and in mechanical properties after heating to different temperatures is shown. The decomposition of supersaturated α -solid solutions

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USSR

FEDOTOV, S. G., et al., Izvestiya Akademii Nauk SSSR, No 5, 1973, pp 225-230
 of Ti-Mo martensite (up to 6 wt% Mo) takes place in the temperature interval at continuous decrease of the temperatures of beginning and ending decomposition with increasing Mo-content. In higher alloyed alloys (6-11 wt% Mo) possessing $(\alpha' + \beta + \omega)$ -phases, the temperature of beginning decomposition of the α' -component does not decrease with changing composition of the alloy; it remains on the temperature level of the decomposition of the supersaturated martensite with 6 wt% Mo. The possibility of a controllable change of the mechanical properties of the alloys in a wide range at decomposition of the martensitic structure is indicated. Five figures, 14 bibliographic references.

2/2

Titanium

USSR

UDC: 536.425

FEDOTOV, S. G., KONSTANTINOV, K. M., SINODOVA, Ye. P., Institute of Metallurgy imeni A. A. Baykov, Academy of Sciences of the USSR, Moscow

"Concerning Suppression of the ω -Phase When Tempering Titanium Alloys in the Presence of Aluminum and Tin"

Moscow, Doklady Akademii Nauk SSSR, Vol 204, No 6, 21 Jun 72, pp 1415-1418

Abstract: Present concepts of $\beta \rightarrow \omega$ transformations in titanium alloys suggest that the part played by aluminum in suppressing formation of an ω -phase during tempering consists in the retardation of processes of redistribution of the elements in the initial β -solid solution which terminate in the formation of titanium-rich regions. The authors attempt to verify this hypothesis by diffusion experiments in the titanium-vanadium system with aluminum and tin dopants (and also molybdenum, as a control). The study specimens were titanium-base and vanadium-base alloys doped with 1, 2 and 3 wt.% aluminum, with 2 wt.% tin, and with 2 wt.% molybdenum. The specimens were diffusion-annealed in titanium-vanadium pairs in the β -region at 950, 1000, 1050, 1100 and 1200°C for 600, 402, 165, 72 and 23 hours respectively. When the annealing time had elapsed, the specimens were water-quenched. The

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USSR

FEDOTOV, S. G. et al., Doklady Akademii Nauk SSSR, Vol 204, No 6, 21 Jun 72, pp 1415-1418

distribution of elements in diffusion layers was studied by x-ray spectral analysis. The results showed a sharp reduction in the concentration of aluminum and tin in the zone of the steepest gradient of vanadium and titanium concentration. This abrupt drop was observed regardless of dopant concentration or annealing temperature, and coincided with the time displacement of the diffusion front. No singularities were observed in the distribution of molybdenum in the diffusion layer. It is concluded that α -stabilizing elements do not have time to migrate from the points of direct redistribution of titanium atoms and the β -stabilizing atoms during annealing of alloys in the critical region. This is what delays the process leading to formation of titanium-rich regions where $\beta \rightarrow \alpha$ transformation then takes place because of the loss of elastic stability. For this reason, the temperature of martensite transformation is reduced and the metastable β -solid solution is supercooled in the presence of aluminum and tin with a lower concentration of β -stabilizing elements.

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Titanium

UDC 669.295.5'292

USSR

KONSTANTINOV, K. M., FEDOTOV, S. G., and SHNYREV, G. D., Moscow

"Phase Conversions Upon Rapid Heating of Titanium-Vanadium Martensite"

Moscow, IAN SSSR, Metally, No 2, Mar-Apr 71, pp 172-175

Abstract: Continuous heating of titanium-vanadium α' martensite at 3 deg/min and isothermal holding cause its decomposition, forming an ($\alpha + \beta$) structure, characteristic for alloys in the equilibrium state. Increasing the heating rate to 80-100 deg/sec does not prevent decomposition of the supersaturated vanadium solid solution based on α Ti. This work studies the question as to whether similar decomposition occurs at higher heating rates such as 1,000 deg/sec or whether the reverse martensitic ($\alpha' \rightarrow \beta$) conversion occurs, as is usually thought. The experimental results indicate that heating at 1,000 deg/sec does not prevent decomposition of the martensitic structure produced in an alloy of titanium with 10% V by quenching from the β -phase area. The concentration and structural changes occurring at high heating rates during the process of decomposition of the supersaturated α solid solution do not differ significantly from those occurring during heating at relatively low rates, when the phase structure of the alloy is practically characterized by the equilibrium diagram.

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Titanium

USSR

UDC 669.295.5'292

KONSTANTINOV, K. M., FEDOTOV, S. G., and SHNYREV, G. D., Moscow

"Phase Conversions Upon Rapid Heating of Titanium-Vanadium Martensite"

Moscow, IAN SSSR, Metally, No 2, Mar-Apr 71, pp 172-175

Abstract: Continuous heating of titanium-vanadium α' martensite at 3 deg/min and isothermal holding cause its decomposition, forming an ($\alpha + \beta$) structure, characteristic for alloys in the equilibrium state. Increasing the heating rate to 80-100 deg/sec does not prevent decomposition of the supersaturated vanadium solid solution based on α Ti. This work studies the question as to whether similar decomposition occurs at higher heating rates such as 1,000 deg/sec or whether the reverse martensitic ($\alpha' \rightarrow \beta$) conversion occurs, as is usually thought. The experimental results indicate that heating at 1,000 deg/sec does not prevent decomposition of the martensitic structure produced in an alloy of titanium with 10% V by quenching from the β -phase area. The concentration and structural changes occurring at high heating rates during the process of decomposition of the supersaturated α solid solution do not differ significantly from those occurring during heating at relatively low rates, when the phase structure of the alloy is practically characterized by the equilibrium diagram.

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1/2 028 UNCLASSIFIED
TITLE--DECOMPOSITION OF AN UNSTABLE BETA SOLID SOLUTION OF TITANIUM WITH
18 WEIGHT PER CENT VANADIUM -U- PROCESSING DATE--04DEC70
AUTHOR--(02)--FEDOTOV, S.G., KONSTANTINOV, K.M.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 192(3), 555-8
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--SOLID SOLUTION, TITANIUM ALLOY, VANADIUM CONTAINING ALLOY,
BETA PHASE, ELASTICITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3008/1257 STEP NO--UR/0020/70/192/003/0555/0558
CIRC ACCESSION NO--AT0138268
UNCLASSIFIED

2/2 028

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0138268

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELASTIC PROPERTIES OF THE TI 82 PLUS V 18 WT. PERCENT ALLOY WERE STUDIED EXPTL. AT ROOM TEMP. THEY CHANGE SUBSTANTIALLY WITH TIME 0-10,000 HR FOR SAMPLES QUENCHED FROM 1000DEGREES. THE CHANGES MAY BE ACCELERATED BY HEATING AT GREATER THAN 280DEGREES. THE UNSTABLE BETA SOLID SOLN. DECAYS DURING PROLONGED HEATING AT LESS THAN 280DEGREES INTO 2 SOLNS.; THE STRUCTURE OF 1 OF THEM IS NEAR TO THAT OF BETA TI. FACILITY: INST. MET. IM. BAIKOVA, MOSCOW, USSR.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--ZONOVTO

1/2 043

TITLE--EFFECT OF THE HEATING RATE ON THE PROCESSES OF TITANIUM VANADIUM
MARTENSITE DECOMPOSITION -U-

AUTHOR--(02)-FEDOTOV, S.G., KONSTANTINOV, K.M.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, DOKLADY, VOL. 191, APR. 21, 1970, P.
127-1273. 13 REFS.

DATE PUBLISHED--70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--TITANIUM ALLOY, BIBLIOGRAPHY, VANADIUM CONTAINING ALLOY,
ELASTIC MODULUS, METAL HEATING, MARTENSITE, HEAT TRANSFER RATE,
METALLURGIC RESEARCH FACILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/0562

STEP NO--UR/0020/70/191/000/1270/1273

ACCESSION NO--AT0126309

UNCLASSIFIED

2/2 043

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AT0126309

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATION OF THE DECOMPOSITION OF MARTENSITE TITANIUM ALLOYS WITH 10 WT PERCENT V AFTER PARTIAL TEMPERING AT 350, 450, 550, 600 AND 750 DEG C. CHANGES IN THE ELASTIC PROPERTIES OF THESE ALLOYS OCCURRING AFTER BRIEF TEMPERING AT THESE TEMPERATURES ARE DISCUSSED AND ARE SHOWN IN DIAGRAM FORM. SUBSTANTIAL INCREASES IN THE ELASTIC MODULUS AFTER 2 AND 6 SEC EXPOSURES TO 750 DEG C ARE NOTED.

FACILITY: AKADEMIJA NAUK SSSR, INSTITUT METALLURGI, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 621.317.334

KONSTANTINOV, K. S.

"An Instrument for Determining the Inductance and Resistance of Losses in Cores of High-Frequency Grades of Ferrites"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 1 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 1), Novosibirsk, 1970, pp 30-32 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A364)

Translation: The described instrument, which is designed for measuring losses in magnetic permeability of high-frequency ferrite cores under laboratory and production conditions, is based on a resonance bridge with capacitive ratio arms. A variable inductor is used as the element for initial balance with respect to the reactive component, while the corresponding element for the active component is a capacitor. The use of 3-terminal connection of the specimen makes the measurements independent of the stability of the junction resistances of the contacts. On a frequency of 10 MHz, the measurement error for the reactive component is no more than 3 percent, with a corresponding figure of 1 percent for the active component.

N. S.

1/1

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USSR

UDC 621.039.538

BOLDYREV, G. N., VESELKIN, A. P., YEGOROV, Yu. A., YEMEL'YANOV, I. Ya.,
ZHIRNOV, A. D., ORLOV, Yu. V., KONSTANTINOV, L. V.

"Study of the Shielding Problems on Water Cooled - Water Moderated Research Reactors"

V sb. Vopr. fiz. zashchity reaktorov (Problems in Reactor Safety Physics -- Collection of Works), No. 5, Moscow, Atomizdat, 1972, pp 235-250 (from RZh-50. Yadernyye reaktory, No 5, May 72, Abstract No 5.50.62)

Translation: Several special installations were constructed to study shielding. The BSF and GTR installations were swimming pool reactors employing 1 and 3 Mw neutrons, respectively, placed on moving bridges in large water pools. The B-2 device on the BR-5 reactor was developed to study the laws of the attenuation of γ -quanta and reactor neutrons in the geometry of a unidirectional beam; the materials to be studied or models of the shielding were placed in a niche in the reactor shielding. A zero-power reactor was intended for studying processes in the shield directly adjacent to the reactor core. The reactor was equipped with filters in one of the directions making it possible to obtain an optimal relationship between the neutron and

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USSR

BOLDYREV, G. N., et al, Vopr. fiz. zashchity reaktorov, No. 5, Moscow, Atomizdat, 1972, pp 235-250

γ -quanta fluxes. The OR-M experimental device is also intended for studying problems in reactor shielding. The 50-kw water cooled - water moderated research reactor is also equipped with devices for conducting experiments on shielding. Various studies associated with the radiation problems of shielding are carried out on this reactor. A description of the reactors, experimental devices, and characteristics of the devices and methods used in the research are given.

USSR

UDC: 621.059.564.2

YEMEL'YANOV, I. Ya., VETYUKOV, V. N., KONSTANTINOV, L. V.,
NAZARYAN, V. G., PAVLOV, I. K., POSTNIKOV, V. V.

"Discrete Testing of Distributions of Power Output in Nuclear Reactor Cores"

Moscow, Atomnaya Energiya, Vol 34, No 2, Feb 73, pp 75-79.

Abstract: This work presents a study of two methods of discrete testing of the distribution of power output: empirical and calculation-experimental. The first method, the engineering solution of the problem, is based on the use of simple empirical relationships produced in experiments involved in startup and initial operation of the first reactor of a given type; the second method is based on simultaneous use of the results of physical calculation and discrete measurements of the distribution of power output. The application of both methods is illustrated using data from the Beloyarsk Nuclear Power Plant. The methods for discrete testing of multi-dimensional distributions studied in this work are intended for use in the algorithms of the computers at nuclear power plants for testing of the distribution of power output. However, with slight changes, they can be used for other discrete measurement tasks as well.

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1/2 036 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--SPECTRA OF SLOW NEUTRONS FROM A CONTINUOUS TANGENTIAL REACTOR
CHANNEL -U-
AUTHOR--(05)-GOSHCHITSKIY, B.N., GUSEV, V.V., KONSTANTINOV, L.V.,
KOROTOVSKIKH, P.M., SIDOROV, S.K.
COUNTRY OF INFO--USSR
SOURCE--AT. ENERG. 1970, 28(5), 425-6
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--SPECTRUM, SLOW NEUTRON, GRAPHITE, PLEXIGLASS, MAXWELL
DISTRIBUTION, NEUTRON FLUX, NUCLEAR REACTOR/(U)IVV2 REACTOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3008/0584

STEP NO--UR/0089/70/028/005/0425/0426

CIRC ACCESSION NO--AP0137669

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--27NOV70

2/2 036

CIRC ACCESSION NO--AP0137669

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTIVENESS OF GRAPHITE AND PLEXIGLAS AS SCATTERERS FOR THE EXTN. OF SLOW N FROM A CONTINUOUS TANGENTIAL REACTOR CHANNEL WAS STUDIED BY OBTAINING ENERGY SPECTRA OF SLOW N FROM THE TANGENTIAL CHANNEL GEK-5 OF THE REACTOR IVV-2. THE N FLUX WAS MEASURED AS A FUNCTION OF THE N WAVELENGTH, THE LENGTH OF THE SCATTERER, AND THE ANGLE OF THE SCATTERER WITH RESPECT TO THE CHANNEL AXIS. THE SPECTRA ARE COMPARED WITH MAXWELL DISTRIBUTION CALCD. FOR T EQUALS 290DEGREEESK. IN ALL CASES THE SPECTRA ARE DESCRIBED BY THE SAME ENERGY DISTRIBUTION. THE OBSD. WEAK ABSORPTION OF N IN THE PLEXIGLAS SCATTERER DID NOT AFFECT THE CHARACTER OF THE SPECTRUM, BUT SLIGHTLY DECREASES THE VALUE OF THE N FLUX FOR EACH ENERGY.

UNCLASSIFIED

USSR

KONSTANTINOV, N., and POLISHCHUK, D.

"Dolphins on School Benches"

Moscow, Izvestiya, 7 Mar 71, p 4

Translation: The smooth, blue surface of the bay is cleaved by the bodies of dolphins. They are lying still along a wideswung start line. The pool attendant gives a command and begins a lesson in... geometry. Afalina Tursiops truncatus make no mistakes in distinguishing a sphere from a pyramid and a cylinder from a cube.

A lesson on materials follows. Again, the animals are scintillating with their remarkably bright wits. It costs them no effort to distinguish lead from steel or brass from plastic.

A large group of Soviet scientists -- acousticians, physiologists, and oceanographers -- who are studying the language, psyche, and hydrodynamic properties of the inhabitants of our southern seas, have reported the results of their investigations in lectures given during the All Union Acoustic Conference in Leningrad.

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USSR

KONSTANTINOV, N. and POLISHCHUK, D., Izvestiya, 7 Mar 71, p 4

Soviet scientists have elucidated the secret of the Azov dolphins' phenomenal ability to detect the presence, in the water, of a 1 mm thick wire. Experiments have shown that the Azov dolphins emit, from their natural echo sounders, not only low-frequency sounds, as was previously established, but also ultrasound signals.

2/2

1/2 035 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--PLASMA SURFACE STATES IN SEMICONDUCTORS -U-
AUTHOR--(02)-KONSTANTINOV, O.V., SHIK, A.YA.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,
NR 5, PP 1662-1674
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--SEMICONDUCTOR DEVICE, SEMICONDUCTOR MATERIAL, WORK FUNCTION,
ELECTRON, QUANTUM ELECTRODYNAMICS, SURFACE PROPERTY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/0004 STEP NO--UR/0056/70/058/005/1662/1674
CIRC ACCESSION NO--AP0127654

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0127654

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EXISTENCE OF AN ELECTRON WORK FUNCTION IN SEMICONDUCTORS RESULTS IN DEPLETION OF ELECTRONS NEAR THE SEMICONDUCTOR SURFACE. THE PRESENCE OF SUCH A SURFACE QUANTUM CHARGE LEADS TO A BENDING OF THE CONDUCTIVITY BAND NEAR THE SURFACE AND TO THE EXISTENCE OF ONE OR SEVERAL SURFACE LEVELS. A MODIFICATION OF THE CLASSICAL SCREENING THEORY IS OFFERED. FACILITY:
FIZIKO-TEKHNICHESKIY INSTITUT IM. A. F. IOFFE AN SSSR.

UNCLASSIFIED

USSR

UDC 621.382.3(C88.8)

DANILIN, V.N., KONSTANTINOV, P.B., MOROZOV, A.A., FILATOV, A.L., CHERNYAVSKIY, A.A.

"Transistor For Circuits With Automatic Gain Control"

USSR Author's Certificate No 256084, filed 10 June 67, published 19 March 70 (from RZh--Elektronika i yeye primeneniye, No 11, November 1970, Abstract No 11B163P)

Translation: In the proposed structure of a transistor for circuits with AGC, the electrodes for the emitter and base are made by alloy-diffusion technology (in contrast to deposition in mesa structures), and the small active area of the emitter junction, necessary to assure a decrease of gain at high frequency, is assured because of a radial clearance between the base layer and the emitter electrode. A high-resistance semiconductor wafer with a resistivity not less than 1 ohm.cm serves as the base for the device, and the invariability of the dimensions of the emitter electrode assures reliability of the emitter lead out connection irrespective of the area of the emitter junction. By changing the area of the radial clearance, it is possible to obtain transistors of various classes with constant dimensions of the initial blank [zagotovka]. P.S.

1/1

1/2 025 UNCLASSIFIED
TITLE--A HIGH FREQUENCY TUNNEL DIODE -U-

PROCESSING DATE--11SEP70

AUTHOR--KONSTANTINOV, P.B., SHAPIRO, V.I.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 263044

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI NO 7, 4 FEB

DATE PUBLISHED-----70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--HIGH FREQUENCY, TUNNEL DIODE, PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1992/1092

STEP NO--UR/0482/69/000/000/0000/0000

CIRC ACCESSION NO--AA0112214

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AA0112214

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS AUTHOR'S CERTIFICATE INTRODUCES A HIGH FREQUENCY TUNNEL DIODE WHICH HAS A DOPANT CONCENTRATION OF 10 PRIME19-10 PRIME21-CC IN THE EGNERATE P AND N REGIONS, AND WHICH DIFFERS BECAUSE TO IMPROVE THE NOISE CHARACTERISTICS WITHOUT CHANGING THE VALUE OF THE MAXIMUM FREQUENCY, THE DOPANT CONCENTRATION IN THE N REGION IS CLOSE TO OR GREATER THAN THAT IN THE P REGION.

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USSR

UDC 621.382.2

K
KONSTANTINOV, P. B., SHAPIRO, V. I.

"A High-Frequency Tunnel Diode"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki,
No 7, 4 Feb 70, p 62, Patent No 263044, Filed 22 Jan 68

Translation: This Author's Certificate introduces a high-frequency tunnel diode which has a dopant concentration of 10^{19} - 10^{21} /cc in the degenerate P and N regions, and which differs because to improve the noise characteristics without changing the value of the maximum frequency, the dopant concentration in the N region is close to or greater than that in the P region.

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KONSTANTINOV R.G.

AA0043474

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

1/70

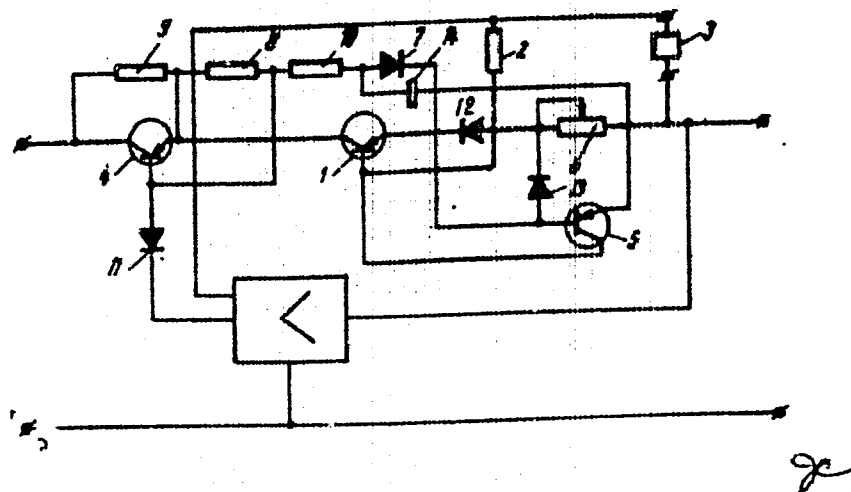
240041 VOLTAGE STABILISER has one transistor added for the purpose of protecting it against overloads and short circuits. The base of the auxiliary transistor is connected through a stabilitron and a resistor to the base of the regulating transistor. The same base is also connected through two joined in series diodes to the emitter of the protection transistor. A variable resistor has one end connected to the point between diodes and the other end to the output rail. 6.12.65. as 1041220/26-9.

R.G. KONSTANTINOV (19.8.69.) Bul.12/21.3.69.
Class 21a⁴, 21c. Int.Cl H02m, H01h.

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19761849

AA0043474



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19761850

USSR

UDC 621.793.4

KONSTANTINOV, V. A., TEREKHOVA, V.V., and TAMARIN, Yu. A.

"Nature of Alitized Layers on Nickel"

Moscow, Zashchita Metallov, Vol 6, No 2, Mar-Apr 70, pp 213-216

Abstract: The structure of the surface layer of alitized nickel depends primarily on the method and conditions of the process. Etching the cross section cut of nickel after alitizing it at 950°C in containers filled with a powder mixture of 98% Fe-Al alloy (50% Al)+2% NH_4Cl reveals three layers. The thickness of each layer is directly proportional to the square root of alitizing time. The experimental data indicate the relative diffusion rate of nickel atoms toward the surface and that of aluminum atoms from the surface. Calculations show that after alitizing, almost the entire aluminum is concentrated in the intermetallide layers. Four tables in the original article show the characteristics of diffusive layers after 4, 16, and 36 hours of alitizing at 950°C, such as the relative layer thickness, crystal structure, crystal lattice parameter, color, composition of nickel and aluminum (in percent), density (g/cm^3), and microhardness (kg/mm^2). Table 4 provides specific data on the thickness and mean composition of each layer after alitizing. In open air at 950°C, the surface of the intermetallide NiAl forms a fine layer of oxide Al_2O_3 which protects the alitized layer from further oxidation until the intermetallide layer dissolves in the nickel.

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ELECTRICAL ENGINEERING

Machinery

USSR

UDC: 621.373.42

KONSTANTINOV, V. A., MOROZOV, A. V., RYAZANOVA, R. V.

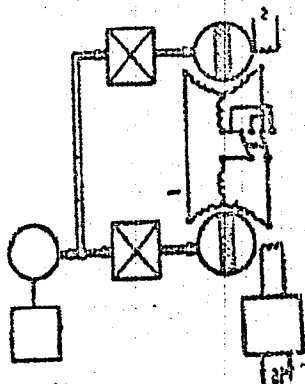
"An Electromechanical Ultralow-Frequency Generator"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 6, 1970, p 45, patent No 262213, filed 28 Oct 68

Abstract: This Author's Certificate introduces an electromechanical ultralow-frequency generator which contains an electric drive with controllable speed of rotation, a selsyn pair in the transformer connection mode, speed reducers and a demodulator. As a distinguishing feature of the patent, the range of frequencies which can be generated is extended, design is simplified and the reliability of the device is improved by connecting the electric motor to the rotors of both selsyns through separate speed reducers with different gear ratios. The synchronization windings of the selsyns are interconnected through an additional switch.

USSR

KONSTANTINOV, V. A., et al, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 6, 1970, p 45, patent No 262213, filed 28 Oct 68



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USSR

KONSTANTINOV, V. I.

"Translator for a Homogeneous Computer System"

Vychisl. Sistemy [Computer Systems -- Collection of Works], No 51, Novosibirsk, 1972, pp 59-69 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V668, by the author).

Translation: A method of construction of syntactically controlled translators for homogeneous computer systems is studied. One peculiarity of the method is the construction of a linguistic model and use of the model to subdivide the process of translation into a sequence of simple actions performed upon recognition of the corresponding structures of the language. The grammar of the input language is fixed using a metalanguage of TR grammars, a modification of R grammars. The input language of the translator allows both sequential and parallel computation processes, produced using methods of paralleling by cycles, to be recorded.

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UDC 681.3.06:51

USSR

KONSTANTINOV, V. I., MIRENKOV, N. N.

"Functioning of a Homogeneous Computer System with a Priority Stream of Large Problems"

Vychisl. Sistemy [Computer Systems -- Collection of Works], No 42, Novosibirsk, 1970, pp 47-58, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V794 by V. Mikheyev).

Translation: The operation of a multimachine homogeneous computer system (HCS) in the mode of one stream of problems is studied. One peculiarity of the functioning of the system is that each problem can request for its solution any number of machines and machine servicing is begun and ended in groups. A problem is considered large if its rank is greater than $1/2$, otherwise it is considered small (1 is the number of machines in the system). Small problems are assumed at lower priority and are accumulated in a long line. First, analytic study of the operation of the system in the mode of a flow of large problems is performed, then the actions of the monitor to solve small problems using only free machines are studied.

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1/2 024 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLES--FUNCTIONAL INHIBITION OF THE ADRENAL GLANDS BY ACETYLATED
DERIVATIVE OF THE ADRENOCORTICOTROPHIC HORMONE -U-
AUTHOR--DILMAN, V.M., PROKUDINA, YE.A., BULOVSAYA, L.N., KONSTANTINOV,
V.L., TUGUNOV, S.S. K
COUNTRY OF INFO--USSR
SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69, NR
3, PP 69-71
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--INHIBITION, ADRENAL GLAND, ACTH, HYDROCORTISONE, GUINEA PIG,
RAT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1982/0842

STEP NO--UR/0219/70/059/003/0049/0071

CIRC ACCESSION NO--AP0052276

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--11SEP70

2/2 024

CIRC ACCESSION NO--AP0052276

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACETYLATED DERIVATIVE OF ACTH IN WHOM ALL FREE AMINO GROUPS ARE ACETYLATED ARE ENDOWED WITH THE CAPACITY TO FUNCTIONAL INHIBITION OF THE ADRENAL GLANDS REDUCE THE LEVEL OF HYDROCORTISONE IN THE PERIPHERAL BLOOD IN INTACT GUINEA PIGS ON AN AVERAGE BY 37PERCENT FOUR HOURS AFTER INTRODUCTION AND THE LEVEL OF CORTICOSTERONE IN RATS BY 29PERCENT UPON ADMINISTRATION OF THE DERIVATIVE FOR A COURSE OF SEVEN DAYS.

UNCLASSIFIED

1/2 043 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--STRESS RUPTURE SHEAR STRENGTH OF FIBERGLASS REINFORCED PLASTICS -U-
AUTHOR--(02)-STRELIAYEV, V.S., KONSTANTINOV, V.S.
COUNTRY OF INFO--USSR
SOURCE--MEKHANIKA POLIMEROV, VOL. 6, MAR.-APR. 1970, P. 295-302.
DATE PUBLISHED--70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--SHEAR STRENGTH, RUPTURE STRENGTH, FIBERGLASS, REINFORCED
PLASTIC, STRESS LOAD, CYCLIC LOAD TEST

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/2103

STEP NO--UR/0374/70/006/000/0295/0302

CIRC ACCESSION NO--AP0125687

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

2/2 043

CIRC ACCESSION NO--AP0125687

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE TIME DEPENDENCES OF THE SHEAR STRENGTH OF FIBERGLASS REINFORCED PLASTICS SUBJECTED TO MONOTONIC, PROLONGED, AND CYCLIC LOADING. RUPTURE DURING MONOTONIC AND PROLONGED LOADING IS DESCRIBED WITH THE AID OF A POWER LAW MODEL OF DAMAGE ACCUMULATION. IT IS SHOWN THAT THE SHARPEST DECREASE IN STRENGTH OCCURS IN THE CASE OF CYCLIC LOADING. ON THE BASIS OF A STATISTICAL TREATMENT OF THE EXPERIMENTAL RESULTS, IT IS DEMONSTRATED THAT THE TIME DEPENDENCES MAY BE SATISFACTORILY DESCRIBED BY EITHER POWER LAW OR EXPONENTIAL EQUATIONS.

FACILITY: MOSKOVSKII AVIATSIONNYI

TEKHNOLOGICHESKII INSTITUT, MOSCOW, USSR.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ANALYSIS OF THE OPERATION OF THE CENTRAL GAS FRACTIONATION PLANT OF
PLANT THE LOWER KAMA PETROCHEMICAL COMBINE -U-
AUTHOR--(05)-VOLFSON, I.S., KONSTANTINOV, YE.N., KOZIN, V.A., DIMITRIYEV,
A.P., ISLAMOV, SH.KH.
COUNTRY OF INFO--USSR
SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (2), 20-3
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--BUTANE, PROPANE, GAS, PETROCHEMISTRY, CHEMICAL PLANT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FAME--1996/1514

STEP NO--UR/0318/70/000/002/0020/0023

CIRC ACCESSION NO--AP0118501

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118501

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN C SUB2 H SUB6 COLUMN INSTEAD OF A FRACTIONATION ABSORBER AND A LOWER COOLING WATER TEMP. REDUCED THE LOSSES OF THE C SUB3 H SUB8-C SUB4 H SUB10 FRACTION OF THE DRY GAS. THE OPERATING COSTS INCREASED WHEN A SIMILAR QUALITY LEVEL WAS OBTAINED WITH ANALOGOUS TEMP. AND PRESSURE IN THE FRACTIONATION ABSORBER. BUBBLE CAPS INSTEAD OF GRID PLATES IN THE DISTN. COLUMNS PROVIDED HIGHER AND STABLE PURITY OF THE FRACTIONS. THE EFFICIENCY OF THE FORMER BEING TWICE AS HIGH. TEHRMOSIPHON REBOILERS INSTEAD OF FURNACES FOR HEATING THE COLUMN BOTTOMS IMPROVED THE OPERATION CONTROL AND VERSATILITY.

UNCLASSIFIED

USSR

UDC: 539.1.078

KONSTANTINOV, Yu. S., SMIRNOV, A. M.

"On the Theory of the Sideband Spin Generator at High Modulation Indices"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 4, Apr 72, pp 883-884

Abstract: The sideband spin generator is analyzed for the case of large modulation indices $\beta = \gamma h_m / \Omega$, where h_m , Ω are the modulating field amplitude and frequency respectively, and γ is the gyromagnetic ratio. It is found that the oscillations of the sideband spin generator are nonisochronous in the general case. The results show that stable spin generation can be achieved with nonuniform broadening of the NMR line of the working specimen.

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KONSTANTINOVA, I. V.

50: 5-45 54839

23 NOV 71

UDC: 612.017.1.014.482

IMMUNITY TO SMALL DOSES OF GAMMA RAYS IN DOGS AFTER 2-4-YEAR EXPOSURE (IMMUNOLOGICAL AND INGENOCYTOCHEMICAL ANALYSIS)

Article by I.V. Konstantinova, A.S. Skryabin, V.V. Zensky, Yu.R. Vozgolyer, H. Loh, I.S. Puzhys, A. Kozlov, Novosibirsk, Vestnik Akademii Meditsinskikh Nauk SSSR, Kuznetsov, 20 10, 1981, pp 22-29]

Galactic cosmic irradiation the cumulative dosage of which, according to estimates, could constitute 50-100 rem (roentgen equivalent man) over a one-year flight and acute recurrent exposure to solar corpuscular irradiation in the course of 3-50 sun per burst (V.G. Bobkov et al.; Schnfer) are factors that are continuously present during prolonged space flights. The prognosis of man's condition under these conditions and substantiation of levels of permissible exposure of cosmonauts during prolonged space flights constitutes a rather complex problem.

The mechanisms of onset of radiation sickness after exposure to relatively large doses of ionizing radiation have been studied in numerous investigations. There are many works dealing with immunological reactivity under such conditions, and they have been summarized in monographs and textbooks (N.V. Pavlov, B.N. Managarkaya et al.; V.L. Tritsitsky et al., and others). Yet the data on immunological processes in the organism referable to exposure to small doses of ionizing radiation have not been investigated sufficiently,

It has been demonstrated that 4-5 months after fractional or continuous exposure to 1-1.2 per cent there is a significant decrease in immunity to infections (P.N. Kiselev and P.A. Buzint; D.R. Kaulon; E.K. Dzhakidze).

In the present investigations, some manifestations of specific immunity were analyzed during a unique complex chronic experiment.

A large group of dogs had been continuously exposed to gamma rays (cobalt ^{60}Co) for several years. For the first three years of the experiment the animals were exposed to radiation such as could be present for the crew of a spacecraft during a flight from the earth to Mars and back to earth, provided the radiation conditions are relatively stable ("calm") (Yu.G. Grigor'yev et al.)

USSR

UDC 616-097+612.071-11/12

KONSTANTINOVA, I. V., ZAZHIREY, V. D., and SHEYNKER, V. Sh., Institute of Medical Biological Problems, Ministry of Health USSR, and Institute of Human Morphology, Academy of Medical Sciences USSR, Moscow

"Investigation of the Effect of Ribonuclease on the Synthesis of Antibodies During Secondary Immunological Response in Vitro and in Vivo"

Moscow, Doklady Akademii Nauk SSSR, Vol 199, No 4, 1971, pp 948-951

Abstract: The study included 480 in vitro tests in which spleen slices obtained from BCE-vaccinated mice and rabbits were incubated with ribonuclease (with protamine sulfate in control tests), H³-uridine and H³-thymidine. In addition, 86 in vivo tests were conducted in which mice vaccinated with Vi-antigen, BCE (Bacillus Colnbrook England), and diphtheria toxoid were given daily intravenous or intraperitoneal injections of ribonuclease for five days, and then vaccinated for the second time. Subsequent analysis revealed that ribonuclease in small concentrations stimulated antibody synthesis in vitro and in vivo. In the cultures, enhanced synthesis of ribonucleic acids in lymphocytes and proliferation of reticular cells were also observed. In higher concentrations, the enzyme exerted inhibitory effects which were reversed after the excess ribonuclease was washed out. It is believed that

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USSR

KONSTANTINOVA, I. V., et al., Doklady Akademii Nauk SSSR, Vol 199, No 4, 1971,
pp 948-951

the mechanism of action of ribonuclease is either direct or associated with
degradation of ribonucleic acids in dying cells and the products of this
hydrolysis -- mono-oligonucleotides -- which regulate cellular metabolism
and are reutilized in biosynthesis.

2/2

- 54 -

ACC. NR:

APC100918

Abstracting Service:

CHEMICAL ABST.

5-70

Ref. Code:

U/N 0366

110743p Herbicide derivatives of hydroxylamine. XXXV.
Reaction of N-alkylcarbamoyl-N-alkylhydroxylamines with isocyanates. Konstantinova, I. V.; Shvindlerman, G. S.; Vasylyev, A. I.; Baskakov, Yu. A. (Vses. Nauch.-Issled. Inst. Khim. Serdstv Zashch. Rast., Moscow, USSR). Zh. Org. Khim. 1970, 6(2), 300-6 (Russ). Condensation of RNHOH with R'NCO in Et₂O or benzene at 0-5° gave RN(OH)CONHR' (I) (R and R' given): Me, Me; Me, Et; Me, iso-Pr; Me, Bu; Me, iso-Bu; Me, sec-Bu; Me, tert-Bu; Et, Me; Et, Et; Et, Pr; Et, iso-Pr; Et, Bu; Et, iso-Bu; Et, sec-Bu; Et, tert-Bu; Et, 3-ClC₆H₄; and iso-Pr, tert-Bu. At 20° RNHOH react with R'NCO to give besides I also RN(O₂CNHR')CONHR' (R, R', and R' given): Me, Me, Me; Et, Me, Me; Et, iso-Pr, iso-Pr; Me, iso-Pr, iso-Pr; Et, sec-Bu, sec-Bu; Et, tert-Bu, 3-ClC₆H₄; and Et, 3-ClC₆H₄, 3-ClC₆H₄. The "transisocyanation" reaction (N. V. Konstantinova et al., 1969) of I with isocyanates gives a variety of products depending on the reaction conditions and the relative reactivity of the reactants: e.g. EtN(OH)CONHBu-tert + 3-ClC₆H₄NCO → EtN(OH)CONHC₆H₄Cl-3 → EtN(O₂CNHBu-tert)CONHC₆H₄Cl-3. Also MeN(OH)CONHBu + MeNOC → MeN(O₂CHNMe)CONHMe + BuNCO.

CPJR

REEL/FRAME
19850436

USSR

UDC 538.221

GLAZER, A. A., POTAPOV, A. P., TAGIROV, R. I., and KONSTANTINOVA, I. YU.,
Institute of the Physics of Metals, Ural Scientific Center, Academy of Sci-
ences USSR

"Temperature Dependence of Magnetic Properties and Perpendicular Anisotropy
of 'Transcritical' Films"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 36, No 6,
1972, pp 1195-1193

Abstract: A detailed understanding of the physical nature of the "trans-
critical" state requires a knowledge of the quantitative relation between
 I_s and K_{\perp} , on the one hand, and the hysteresis loop parameters and rotatable
anisotropy, on the other. The article attempts to establish such a relation
by studying the temperature dependence of K_{\perp} , I_s , H_s , H_c , I_r/I_s ;
the "flaking" field; and the rotatable anisotropy constant in
"transcritical" 86Ni-14Fe alloy films 2400 Å in width at temperatures from
-196 to +200° C. The results are compared with theoretical results obtained
from formulas based on the open stripe-domain structure model.

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- 32 -

1/2 035

UNCLASSIFIED

PROCESSING DATE--11SEP70

TITLE--CARBOHYDRATE METABOLISM IN BURNS -U- K

AUTHOR--SHURYGIN, D.YA., MOISEYEV, YE.A., KONSTANTINOVA, M., BELYAYEV,
V.YE., ANTONOV, V.B.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VOL 104, NR 3, PP
75-80

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CARBOHYDRATE METABOLISM, BURN, TRAUMATIC SHOCK, ADRENAL
CORTEX, CATECHOLAMINE, PANCREAS, BLOOD CHEMISTRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1986/0639

STEP NO--UR/0589/70/104/003/0075/0000

CIRC ACCESSION NO--AP0102625

UNCLASSIFIED

2/2 035

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0102625

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS HAVE STUDIED CARBOHYDRATE METABOLISM IN VARIOUS PERIODS OF BURN DISEASE. IN THE FIRST PERIOD OF BURN DISEASE (BURN SHOCK) HYPERGLYCEMIA IS OBSERVED. IT CORRESPONDS TO GRAVITY OF THE AFFECT SN AND 60 RELATED WITH THE ENHANCED FUNCTIONING OF THE ADRENAL CORTEX. IN THE SECOND PERIOD (BURN INFECTION AND TOXICEMIA) THE REDUCTION IN BLOOD SUGAR LEVEL IS NOTED THAT COINCIDES IN TIME WITH THE REDUCTION OF CATECHOLAMINES EXCRETION, DECREASED GLUCOCORTICOID ACTIVITY OF THE ADRENAL CORTEX AND NORMALIZATION OF CORRELATION OF VARIOUS CELLS IN THE LANGERHANS ISLETS. IN BURN EMACIATION (III D PERIOD) FURTHER REDUCTION IN BLOOD SUGAR LEVEL IS OBSERVED. DURING THE PERIOD OF RECOVERY THE AMOUNT OF SUGAR IN BLOOD IS RESTORED UP TO ITS NORMAL VALUES AND IS ASSOCIATED IN MOST PATIENTS WITH NORMALIZATION OF THE ADRENAL GLUCOCORTICOID FUNCTION.

UNCLASSIFIED

1/2 029 UNCLASSIFIED
TITLE--ANTIRADIATION PROTECTION -U-
AUTHOR-(02)-KONSTANTINOVA, M.M., ZHEREBCHENKO, P.G.
COUNTRY OF INFO--USSR
SOURCE--RADIOBIOLOGIYA 1970, 10(2), 230-41
DATE PUBLISHED-----70

PROCESSING DATE--04DEC70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RADIOPROTECTIVE AGENT, ANOXIA, TOXICITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605004/C03 STEP NO--UR/0205/70/010/002/0230/0241

CIRC ACCESSION NO--AP0139615
UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139615

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRESENT DAY VIEW OF THE MECHANISM OF RADIOPROTECTION AND HYPOTHESES ON ITS ACTION ARE DISCUSSED. RADIOPROTECTORS LIKE SH, ANOXIA PRODUCING SUBSTANCES, CHELATING AGENTS, AND SUBSTANCES INDUCING PHYSIOL. CHANGES ARE REVIEWED. THE POSSIBILITY OF LOWERING THE TOXICITY OF SOME SUBSTANCES IS CONSIDERED.

FACILITY: INST. BIOL. RAZV. MOSCOW, USSR.

UNCLASSIFIED

KONSTANTINOVA, N. N.

SO: JPRS 54304
22 OCT 71

UNC: 616.3-06:616-005.11-06:618.33-072

PATHOGENESIS OF FETAL DISTURBANCES FOLLOWING ACUTE HEMORRHAGE DURING THE
TERMINAL PERIOD OF PREGNANCY (EXPERIMENTAL STUDY)

(Article by I. N. Lebedeva, L. A. Zaslavskaya, N. N. Konstantinova, A. B. Sorokina,
Institute of Obstetrics and Gynecology, USSR Academy of Medical Sciences,
Leningrad; Moscow, Vsesoyuznyi Nauchno-Issledovatskiy Meditsinskiy Tsentr, Russian, No 6,
1971, pp 62-69)

The fetus adjusts relatively well to a chronic oxygen deficiency in the environment. It is quite possible for a normal offspring to be born when there has been prolonged asemic hypoxia during pregnancy, as indicated by clinical studies (N. N. Myasnikov, 1957; V. I. Bodyshtina and Ya. V. Krovkova, 1952; A. I. Belobekyan, 1960; Din Yen, 1960; Lankovskiy, 1961). Experiments on rats also revealed that in the case of acute massive loss of blood in early pregnancy (Bileon, 1954) and in the second half of pregnancy (I. N. Lebedeva, 1959) some the embryos and fetuses die, while the condition of those that survive improves daily. Consequently, the fetus is exposed to the greatest danger during acute maternal hemorrhage and in the hours immediately thereafter. G. B. Berdinskiy (1969) observed fetal bradycardia during acute blood letting in pregnant cats, and the more massive the blood loss the more marked was the bradycardia which appeared immediately after blood letting was started. T. A. Koblova (1954), K. B. Utengenova, Yu. V. Dreyzen (1958) and others observed considerable bradycardia in clinical practice, in the case of complicated pregnancy related to hemorrhages. The extent of fetal injury depends on the condition of the mother at the time of the hemorrhage. Blood letting following prolonged immobilization of pregnant rats aggravated considerably the course of experimental asphyxial hemorrhages in animals under anesthesia which weakens reflex hemodynamic reactions and leads to the fetus than bleeding of unanesthetized animals (I. N. Lebedeva, 1959b).

Acute bleeding rather often complicates the course of pregnancy and could be the cause of intra-uterine asphyxia. What we now know about the bases of the mechanism of its effect on the fetus proves that it is not only necessary but also possible to control the consequences of blood loss. For this, further experimental and clinical investigation is needed of the pathogenesis of the pathological reactions related to bleeding which appear in the maternal and fetal organism.

USSR

UDC 547.238 + 547.239

K
KONSTANTINOVA, N. V., SHVINDLERMAN, G. S., VASIL'YEV, A. F., and
BASKAKOV, YU. A., All-Union Scientific Research Institute for
Chemical Means of Plant Protection, Moscow, State Committee for
Chemistry USSR

"Herbicidal Derivatives of Hydroxylamine
XXXV. Reaction of N-Alkylcarbamoyl-N-alkylhydroxylamine With
Isocyanates"

Moscow, Zhurnal Organicheskoy Khimii, Vol 6, No 2, Feb 70, pp 300-306

Abstract: A series of novel N-alkylcarbamoyl-N-alkylhydroxylamines was synthesized by reacting N-alkylhydroxylamines with alkylisocyanates. An unusual reaction was noted when these products were O-carbamoylated -- one isocyanate group could apparently be replaced by another, more reactive one. It was found that at $\geq 40^\circ$ a molecule of N-alkylcarbamoyl-N-alkylhydroxylamine dissociates reversely into N-alkylhydroxylamine and alkylisocyanate. This phenomenon could be used in explaining the mechanism of transisocyanation. No biological data are reported in this paper, only melting points of the starting hydroxylamines and their reaction products.

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Acc. Nr: **AP0051945**

Ref. Code: **VR 0297**

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 4, pp 297-300

CHEMICAL STUDIES ON SIBIROMYCIN, AN ANTITUMOR ANTIBIOTIC

M. G. Brazhnikova, I. N. Kousharova, N. V. Konstantinova, A. S. Mezentsev,
V. V. Proshlyakova, I. B. Tolstykh

Institute for New Antibiotics of USSR Academy of Medical Sciences, Moscow

A new antibiotic named sibiromycin was isolated. It has the following empirical formula: $C_{24-25}H_{33-35}N_3O_{6-7}$, $\lambda_{max}^{CH_3OH}$ 230 and 310 m μ . Sibiromycin possesses amphoteric properties, pKa 7.5 (in 75 per cent ethanol). It contains 1 amine, 3 C-methyl and 2-acetylating groups. A crystalline sulfur containing derivative with a composition of $C_{24-25}H_{33-35}N_3SO_{6-9}$ and a melting point of 203° was prepared. The ultraviolet spectrum is identical to that of an antibiotic, $[\alpha]_D^{20}$ 100 \pm 2° (c. 0.15, DMPHA).

REEL/FRA
19820428

2 pc

USSR

PARUSHINA, A. Ye; KONSTANTINOVA, O. S.

"Interferon Production in the Organism of Animals of Various Ages"

Moscow, Voprosy Mediko-Biologicheskikh Issledovaniv. Materialy Konferentsii Molodykh Nauchnykh Rabotnikov Mediko-Biologicheskogo Fakul'teta (Aspects of Biomedical Research. Materials of a Conference of Young Scientific Workers of the Biomedical Faculty), Ministerstvo Zdravookhraneniya SSSR, 1970, 93 pp, pp 3-5

Abstract: The object of the experiments was to determine the relationship between interferon production and the greater sensitivity of young animals to viral infections. Chick embryos incubated 6 and 13 days, and mice aged 1-2 and 4-5 days, 4-5 weeks, and one year were used. Infections were induced by injections of Western equine encephalomyelitis virus and Sindbis virus. Chick embryos were inoculated also with the influenza A virus. Titration established that the 6-day embryos produced considerably less interferon than did the 13-day old chicks,

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USSR

PARUSHINA, A. Ye., et al, Voprosy Mediko-Biologicheskikh Issle-
dovaniy. Materialy Konferentsii Molodykh Nauchnykh Rabotnikov
Mediko-Biologicheskogo Fakul-teta, 1970, 93 pp, pp 3-5

regardless of the type of virus used for infection. Analogous results were obtained in experiments with mice: the interferon titer progressively increased with increase in the age of animals. It may be assumed, therefore, that the greater sensitivity of young animals to infections is linked to the immaturity of the interferon production mechanism.

2/2

- 52 -

1/2 031
TITLE--ANTIBODY CONTENT TO SHEEP ERYTHROCYTES AND ANTI D STREPTOLYSINS IN
MENTAL PATIENTS -U-
AUTHOR--(03)--KONSTANTINOVA, T.P., ILINSKIY, YU.A., KLOKOV, YE.A.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA, 1970,
VOL 70, NR 4, PP 592-596
DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANTIBODY, ERYTHROCYTE, HEMAGGLUTINATION, PSYCHOSIS,
SCHIZOPHRENIA, ALCOHOL, INSULIN, NERVOUS SYSTEM DRUG

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/1659

STEP NO--UR/0246/70/070/004/0592/0596

CIRC ACCESSION NO--AP0106405

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--09OCT70

2/2 031

CIRC ACCESSION NO--AP0106405
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. A STUDY HAS BEEN CONDUCTED WITH 244 MENTAL PATIENTS AND 166 DONORS OF THE CENTRAL INSTITUTE OF BLOOD TRANSFUSION FOR THE DETERMINATION OF THE LEVEL OF NORMAL ANTIBODIES (HEMOLYSINS AND HEMAAGGLUTINATION TO SHEEP ERYTHROCYTES) AND ANTI D STREPTOLYSINS. THE PATIENTS WERE DIAGNOSED IN THE FOLLOWING WAY: 94 CASES WITH SCHIZOPHRENIA; 47, WITH ORGANIC BRAIN LESIONS (MAINLY OF A TRAUMATICAL AND INFECTIOUS ETIOLOGY); 26, WITH REACTIVE STATES; 19, WITH CHRONIC ALCOHOLISM; 26, WITH PSYCHOPATHY, ETC. AMONG THE SCHIZOPHRENIC PATIENTS 67 WERE TREATED WITH AMINAZINE, STELAZINE OR INSULIN. IT WAS ESTABLISHED THAT THE MOST DEMONSTRABLE TEST WAS THE HEMOLYSIN TITRE. ITS FLUCTUATION WAS NOTED IN THE DIFFERENT NOSOLOGICAL GROUPS. THE HEMOLYSIN TITRE WAS SIGNIFICANTLY HIGHER IN SCHIZOPHRENIC PATIENTS DURING INSULIN THERAPY. THIS ALLOWS TO ASSUME THAT THE HEMOLYSIN TITRE, AS A MORE DYNAMICAL ONE, THAN THE OTHER TWO STUDIED INDICES MAY REFLECT THE CHANGES IN THE IMMUNOLOGICAL REACTIVITY IN MENTAL DISORDERS AND BE USEFUL FOR THE GENERAL CLINICAL EVALUATION AND THE DETERMINATION OF THE PROGNOSIS.

UNCLASSIFIED

UDC 547.26.118

USSR

ZOLOTOVA, M. V., KONSTANTINOVA, T. V.

"Reaction of Complete Phosphites With Substituted Carboxylic Acyl Chlorides"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70, p 2131

Abstract: Complete phosphites react with alkoxy- or thioalkoxy-carboxylic acyl chlorides by the Arbuzov type rearrangement, giving esters of alkoxy or thioalkoxyacylphosphonic acids: $RCH_2COCl + (C_2H_5O)_2P \rightarrow RCH_2COP(O)(OC_2H_5)_2$ when $R = -C_2H_5$ -- b.p. 102-104/10 mm, d_4^{20} 1.0966, n_D^{20} 1.4158; $R = -SC_2H_5$ -- b.p. 94/3 mm, d_4^{20} 1.0960, n_D^{20} 1.4462; $R = -SC_4H_9$ -- b.p. 100/3 mm, d_4^{20} 1.0700, n_D^{20} 1.4431.

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1/2 013
UNCLASSIFIED
TITLE--DOMAIN STRUCTURE OF A TRIGLYCINE SELENATE CRYSTAL -U-
AUTHOR--(02)-KONSTANTINOVA, V.P., STANKOVSKA, J.
COUNTRY OF INFO--USSR
SOURCE--KRISTALLOGRAFIYA 1970, 15(2), 382-4
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--MAGNETIC DOMAIN STRUCTURE, GLYCINE, CRYSTAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1568
CIRC ACCESSION NO--AP0125194
UNCLASSIFIED
PROCESSING DATE--13NOV70
STEP NO--UR/0070/70/015/002/0382/0384

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 013

CIRC ACCESSION NO--AP0125194

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE DOMAIN STRUCTURE OF TRIGLYCINE SELENATE CRYSTALS AND THE NATURE OF ITS CHANGE WITH TIME AFTER PASSAGE THROUGH THE CURIE POINT DURING COOLING WERE STUDIED. THE CURIE TEMP. OF CRYSTALS OBTAINED FROM AQ. SOLN. WAS MINUS 22.8 DEGREES. PLATES WERE ETCHED PERPENDICULAR TO THE FERROELEC. B AXIS BY 10 PERCENT AQ. NH SUB3. ETCHING TIME WAS 1-1.5 MIN. AS FOR TRIGLYCINE SULFATE, THE PRESENCE OF A LARGE NO. OF "DOMAINS" WAS OBSD. IN THE AREA OF CRYSTAL (001) EDGE GROWTH, IN CONTRAST TO THE AREA OF (110) EDGE GROWTH. THE LATTER MAY BE CONNECTED WITH A NONUNIFORM DISTRIBUTION OF IMPURITIES AND DEFECTS.

FACILITY: INST. KRISTALLOGR., MOSCOW, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--07OCT70
TITLE--ON THE EFFECT OF SURFACTANTS ON STRUCTURE FORMATION IN POWDER
DISPERSIONS IN NONPOLAR LIQUID MEDIUM AND IN AIR -U-
AUTHOR--(05)-BELUGINA, G.V., KONSTANTINOVA, V.V., MIRZAABDULLAYEVA, D.,
ZAKLYEVA, S.KH., REBINDER, P.A.
COUNTRY OF INFO--USSR

SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2, PP 177-181

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COAGULATION, AIR, CALCIUM CARBONATE, CALCIUM FLUORIDE, IRON
OXIDE, HYDROCARBON, REACTION KINETICS, SURFACTANT, AEROSOL CHEMISTRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REFL/FRAME--1990/0768

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UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--020CT70

2/2 020

CIRC ACCESSION NO--AP0109969

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. ADDITIONES OF SURFACTANTS CHANGES THE SEDIMENTATION KINETICS OF SUSPENSIONS (CACO SUB3, FE SUB2 O SUB3, CAF SUB2), INCREASES THE VOLUME FRACTION OF THE SOLID PHASE IN THE SEDIMENT AND DIMINISHES THE STRENGTH OF COAGULATION STRUCTURES IN POWDER DISPERSIONS BOTH IN A LIQUID HYDROCARBON MEDIUM AND IN AIR. IN DISPERSIONS WITH MIXED SOLID PHASES SMALL ADDITIONS OF A SECOND DISPERSED PHASE HAVE A SIMILAR EFFECT.

UNCLASSIFIED

UDC 621.039.53:628.165.04

USSR

D'YAKOV, A. A., KONSTANTINOVA, Ye. V., and SHATSILLO, V. G.

"Construction Materials for Distillation Desalination Equipment"

Moscow, Vodosnabzheniye i Sanitarnaya Tekhnika, No 7, 1973, pp 21-23

Abstract: The construction materials analyzed in this paper assure the necessary performance of the existing equipment. However, in trying to solve one of the most important purification problem -- lowering the net cost of the distillate -- new materials will have to be considered. In designing new equipment, one must consider the use of aluminum, various plastics, carbon steel as well as reinforced concrete, wherever applicable.

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USSR

UDC 620.193.41 : 669.24

MATUSEVICH, V. S., LEBEDEV, A. N., FOKIN, M. N., and KONSTANTINOVA, YE. V.

"Study of Corrosion of Nickel-Molybdenum Alloy EP-496 in Hydrochloric Acid Solutions Containing a Fluorine Ion"

Moscow, Zashchita Metallov, Vol 8, No 3, May-Jun 72, pp 317-320

Abstract: For purposes of selecting a corrosion-resistant material for highly corrosive media of the system $\text{HCl}+\text{HF}+\text{H}_2\text{O}$, the authors tested nickel-molybdenum alloy EP-496 ($\text{C} < 0.05$, $\text{Si} < 0.5$, $\text{Mn} < 0.5$, $\text{V} 1.4-1.7$, $\text{Fe} < 4.0$, $\text{Mo} 25\pm 29$ percent, the rest Ni), developed by the Central Scientific Research Institute of Ferrous Metallurgy. The tests were conducted in a 10 M HCl solution with additions of 0.2-1.0 M F^- at the boiling point (104°). Alloy EP-496 possesses satisfactory corrosion resistance in a hydrochloric acid solution with fluoride additions. The corrosion rate and potential change slightly with the introduction of up to 1.0 M fluoride ion into the solution. The alloy corrodes at an increased rate if there are oxidizing agents in the solution. The corrosion potential of EP-496 in a 10 M $\text{HCl}+0.2$ M F^- solution shifts towards

1/3

USSR

MATUSEVICH, V. S., et al., Zashchita Metallov, Vol 8, No 3, May-Jun 72, pp 317-320

positive values and the average corrosion rate rises sharply with an increase in the Fe^{3+} concentration. For purposes of corrosion protection, the authors tried a method of Fe^{3+} reduction in solution and selected the most effective reducing agents. This treatment was found to be more effective with a homogeneous oxidation mechanism than with heterogeneous oxidation. The problem was to select a reagent which permits sufficiently rapid and complete reduction of Fe^{3+} with minimum consumption of the introduced reducing agent.

Sodium hyposulfite and hypophosphite proved ineffective. The introduction of tin dichloride provides effective protection, reducing the corrosion rate to that in a solution free of an oxidizing agent. In experiments with metallic reducing agents, their protector effect on the alloy was eliminated (the experiments being staged in the absence of direct contact between specimen and the chip of the introduced metal). There was an increase in the

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USSR

MATUSEVICH, V. S., et al., Zashchita Metallov, Vol 8, No 3, May-Jun 72, pp 317-320

corrosion rate of the alloy with the introduction of a metal chip (steel St. 3) into the solution. The transition of metallic iron to the ionic state was accompanied by intensive hydrogen evolution. Metallic aluminum cuts in half the corrosion rate of the alloy. Metallic titanium was found to be an exceptionally effective corrosion inhibitor for alloy EP-496 in a hydrochloric acid-fluoride medium both in the presence and in the absence of trivalent iron ions in the solution. The optimum addition of metallic titanium for protection at certain oxidizing agent concentrations is chosen empirically.

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UDC 551.463:669.018.8

USSR

KONSTANTINOVA, Ye. V., SEMENOVA, L. S., and D'YAKOV, A. A.

"The Effect of Sea Water Composition on Corrosion of Copper Alloys Used Under Desalination Conditions"

Moscow, Vodosnabzheniye i Sanitarnaya Tekhnika, No 6, 1971, pp 13-18

Abstract: Examining pipes made of different materials showed that in laboratory conditions the Black Sea water is most corrosive and the Caspian Sea water the least corrosive toward copper alloys. Stannous brass is the least corrosion-resistant material, aluminum brass being poorer than MNZh5-1 alloy, and copper-nickel -- the best material. The aggressiveness of sea water depends on the ratio of sulfate:chloride ion concentrations; the corrosive action decreases as this ratio increases. Aggressiveness also depends on the total salt content in sea water: the lower the content, the greater the corrosive action because it dissolves then more oxygen. Finally, the absolute concentration of chloride and sulfate ions has an effect: the sulfate ions inhibiting the corrosion and the chloride ions accelerating it.

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UDC 620.193.27

USSR

KURSANOVA, B. I., and KONSTANTINOVA, Ye. V., Sverdlovsk

"Corrosion of Materials in a Distillate Containing Dissolved Gases"

Moscow, Vodosnabzheniye i Sanitarnaya Tekhnika, No 8, 1970, pp 4-8

Abstract: In connection with the present practice of supplying arid districts with desalinated sea water, the experimental-industrial plant at Shevchenko has been studying intake pipe corrosion for several years, especially the corrosion of carbon steel pipes, which process at $0.12-0.17 \text{ g/m}^2\text{-hr}$.

It was found that dissolved gases (oxygen, carbon dioxide) in the distillate are a prime cause of the corrosion of carbon steel intake pipes, and that their removal can cut corrosion by almost half. Further, aluminum can be used as pipe material, regardless of the gases, provided the copper ion content is limited and there are no more than 20 mg/l of iron ions present. Finally, galvanized steel can be used, without condition. But all of these materials are subject to a slight degree of corrosion.

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UDC 628.346

USSR

ZOLOTAVIN, V. L., KONSTANTINOVICH, A. A., SANATINA, V. N., PUSEKAREV, V. V.,
and PETROV, V. S.

"Deactivation of Radioactive Sewage by the Method of Two-stage Coagulation of
Iron Hydroxide"

Leningrad, Radiokhimiya, Vol 13, No 1, 1971, pp 154-156

Abstract: Comparison of the two-stage coagulation process with the single
stage method showed that with identical consumption of iron sulfate the de-
activation of sewage is increased 12-20 fold in respect to the α -activity,
and 2-5 fold in respect to the β -activity when the two-stage method was used.

1/1

- END -

6022

CSO: 1841-W

- 94 -

USSR

UDC: 621.396.677:621.397(088.8)

SHER, S. I., KONSTANTINOVSKIY, A. G., Ukrainian Radio and Television Trust

"A Device for Automatic Remote Activation and Deactivation of a Community Television Antenna Amplifier"

USSR Author's Certificate No 265937, filed 11 Dec 67, published 30 Jun 70
(from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12B106 P)

Translation: The proposed device contains a selective device for producing controlling signals with an actuating mechanism for activating and deactivating the power supply to the amplifiers. To switch on the amplifier only when the TV receivers connected to the antenna are in operation, the selective device is connected to the braid of the main antenna cable and tuned to one of the harmonics of the horizontal frequency of the TV signal. One illustration. Resumé.

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USSR

UD3 621.391.2

KONSTANTINOVSKIY, A.G., SHUVAYEV, V.A.

"On The Physical Realization Of A Rectangular Radio Pulse With Quadrature Phase Modulation"

Radiotekhnika i elektronika, Vol XVII, No 6, June 1972, pp 1220-1223

Abstract: Finite values of the functions of phase (frequency) modulation at the boundaries of a pulse are necessary for practical realization of quadrature phase modulation. The concept of a limitation parameter is introduced for analytical determination of these values. The interconnection of the limitation parameter with the modulation index and the degree of suppression of one side band of the signal spectrum are shown, and relations calculated on an electronic computer are presented. An amplitude spectrogram of a rectangular radio pulse with a suppressed lower side band is shown. 3 fig. 2 ref. Received by editors, 28 April 1971.

1/1

UDC 62-52:003.13

USSR

KUZNETSOV, G. G., PEREVERZEV, YU. V., KONSTANTINOVSKIY, L. B., and VAYNBLAT, B. I., Engineers

"Calculation of Efficiency of Using Automatic Data Transmission Networks"

Moscow, Mekhanizatsiya i Avtomatizatsiya Proizvodstva, No 9, 1971, pp 36-37

Abstract: The article considers the efficiency of replacing ordinary data transmission methods (for example, by telephone) with automatic transmission in fixed- and variable-routing networks. The savings achieved by automatic data transmission are calculated as a function of the cost of transmitting the equivalent amount of information by telephone between the same subscribers.

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UDC 536.46+532.517.4

USSR

BAYEV, V. K., KONSTANTINOVSKIY, V. A., and SIDOROV, I. V.

"The Mixing of Concurrent Streams in a Channel of Constant Cross Section in the Presence of a Recirculation Zone"

Novosibirsk, Fizika Goreniya i Vzryva, No 1, 1972, pp 70-76

Abstract: A description is given, as well as an attempt at generalization, of the results of an experimental investigation of the geometric dimensions of the recirculation zone, and the determination of concentrations along the axis, during the flow of concurrent coaxial streams in a channel of constant cross section, the areas of the stream cross sections being comparable, and with the passive stream situated along the channel axis. The obtained relationships may be used for a priori estimates, for example, of flame stabilization by means of recirculation zones originating during the flow of concurrent streams in a channel of constant cross section. 9 figures. 1 table. 6 references.

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1/2 037

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--IRON METAPHOSPHATE -U-

AUTHOR--(04)-TRUSHINSKA, V.A., KONSTANTS, Z., BURTNIYEKS, U., VAYVADS, A.

COUNTRY OF INFO--USSR

SOURCE--LATV. PSR ZINAT. AKAD. VESTIS, KIM. SER. 1970, (1), 113-14

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHOSPHATE, IRON COMPOUND, X RAY ANALYSIS, IR ANALYSIS, THERMAL ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0022

STEP NO--UR/0464/70/000/001/0113/0114

CIRC ACCESSION NO--AP0119018

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 037

CIRC ACCESSION NO--AP0119018

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A COMPD. CORRESPONDING TO THE
RATIO FE SUB2 O SUB3 .3.1P SUB2 O SUB5 .6.1H SUB2 O WAS PREPD. FROM A
MIXT. OF FEPO SUB4 .2H SUB2 O AND H SUB3 PO SUB4 KEPT 6 WEEKS AT
150DEGREES. THE COMPD. WAS STUDIED BY MEANS OF DTA, IR, AND X RAY ANAL.
FACILITY: INST. NEORG. KHIM., RIGA, USSR.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--11SEP70

1/2 025

TITLE--IRON PYROPHOSPHATE -U-

AUTHOR--TRUSHINSKA, V.A., KONSTANTS, Z., BURTNIYEKS, U., VAYVADS, A.

COUNTRY OF INFO--USSR

SOURCE--LATV. PSR ZINAT. AKAD. VESTIS, KIM. SER. 1970, (1), 112-13

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--IR SPECTRUM, X RAY ANALYSIS, SPECTROSCOPIC ANALYSIS,
PHOSPHATE, IRON COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1988/0600

STEP NO--UR/0464/70/000/001/0112/0113

CIPC ACCESSION NO--AP0105583

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--11SEP70

2/2 025

CIRC ACCESSION NO--AP0105583

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IRON PYROPHOSPHATE IS PREPD. BY
AUTO CLAVING AMORPHOUS Fe(III) PHOSPHATE, WHICH WAS PREPD. BY THE
REACTION OF 87PERCENT H SUB3.PO SUB4 WITH POWD. Fe CARBONYL , FOR 4 HR AT
175DEGREES. THIS PRODUCT EXHIBITS ENDOOTHERMAL EFFECTS AT 555 AND
720DEGREES AND AN EXOTHERMAL EFFECT AT 645DEGREES. THE PRODUCT WAS ALSO
STUDIED BY X RAY AND IR ANAL.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--P SUB2 O SUB5 MINUS SB SUB2 O SUB3 R SUBX O SUBY SYSTEMS (R EQUALS
CR, V, TI, FE). III. PHOSPHORUS PENTOXIDE AND ANTIMONY SESQUIOXIDE -U-
AUTHOR-(05)-DOMBROVSKAYA, V.K., MILLERS, T., KONSTANTS, Z., VAYVADS, A.,
VITINA, I.
COUNTRY OF INFO--USSR
SOURCE--LATV. PSR. ZINAT. AKAD. VESTIS, KIM. SER. 1970, (1), 10-14
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL EFFECT, CHEMICAL SYNTHESIS, ELECTRICAL CONDUCTIVITY,
ANTIMONY COMPOUND, PHOSPHORUS COMPOUND, CHROMIUM COMPOUND, VANADIUM
COMPOUND, TITANIUM COMPOUND, IRON COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1988/0610

STEP NO--UR/0464/70/000/001/0010/0014

CIRC ACCESSION NO--AP0105593

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--18SEP70

2/2 020

CIRC ACCESSION NO--AP0105593

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NH SUB4 H SUB2 PO SUB4 USED TO PREP. THE SPECIMENS HAD ONLY 1 ENDOTHERMIC EFFECT, AT SIMILAR TO 200DEGREES. AT THIS POINT THE ELEC. COND. INCREASED SHARPLY. ABOVE THIS TEMP. THE PHOSPHATE GRADUALLY DECOMPD. GIVING OFF NH SUB3 AND H SUB2 O. THE ENDOTHERMIC EFFECT AND THE SHARP INCREASE OF COND. WERE THE RESULT OF FUSION. BEYOND THE PEAK A NEW SOLID SUBSTANCE FORMED AND THE ELEC. COND. DROPPED TO ITS ORIGINAL VALUES. THE SB SUB2 O SUB3 UPON HEATING HAD 1 EXOTHERMIC EFFECT, AT 570-580DEGREES, CAUSED BY OXIDN. OF SB SUB2NEGATIVE O SUB3 TO SB SUB2 O SUB4. HEATING A MIXT. OF P SUB2 O SUB5 MINUS SB SUB2 O SUB3 TO 300DEGREES RESULTED IN THE FORMATION OF A COMPD. CORRESPONDING TO SB SUB2 O SUB3 TIMES P SUB2 O SUB5. THIS SUBSTANCE REMAINED CRYST. UP TO 1400DEGREES.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--EFFECT OF ESERINE ON LACTATE DEHYDROGENASE ISOENZYMES IN CAT BRAIN
-0-
AUTHOR--(C3)--STROYKOV, YU.N., PARKELOV, I.M., KONSTORUM, M.G.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(3), 726-8
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ALKALOID, MYOCARDIUM, KIDNEY, LACTATE DEHYDROGENASE, BRAIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/1487

STEP NO--UR/C020/70/191/003/0726/0728

CIRC ACCESSION NO--AT0130410

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

2/2 020

CIRC ACCESSION NO--AT0130416

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ESERINE ADMINISTERED I.M. TO CATS AT 1.35 MG PER KG DECREASED THE TOTAL ACTIVITY OF LACTATE DEHYDROGENASE (LDH) (EC 1.1.1.27), BUT DID NOT SIGNIFICANTLY CHANGE THE LDH SPECTRUM IN THE MYOCARDIUM AND KIDNEYS. ESERINE SELECTIVELY INCREASED THE ACTIVITY OF LACTATE DEHYDROGENASE ISOENZYME IN THE BRAIN TISSUE, PROBABLY BY REPRESSING GENE A AND INCREASING BIOSYNTHESIS OF THE M POLYPEPTIDES.

FACILITY: VOENNO-MED. AKAD. IM. KIROVA, Leningrad, USSR.

UNCLASSIFIED

1/2 034 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--COMPLEXES FOR THE SURFACE TREATMENT OF FLUOROPLAST 4 -U-

AUTHOR--(02)-BELEGA, ZH.V., KONTAR, A.A.

COUNTRY OF INFO--USSR

SOURCE--PLAST. MASSY 1970, (3), 61-2

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--COMPLEX COMPOUND, SODIUM COMPOUND, ANTHRACENE, METAL COATING,
ADHESIVE, MECHANICAL STRENGTH, FLUOROCARBON RESIN/(U)FLUOROPLAST4
FLUORINE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/0582

STEP NO--UR/0191/70/000/003/0061/0062

CIRC ACCESSION NO--AP0119500

UNCLASSIFIED

2/2 034

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119500

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A COMPLEX WAS PREPD. (FROM 200 G NA, AND 375 G ANTHRACENE DISSOLVED IN 1000 ML TETRAHYDROFURAN) FOR THE MODIFICATION OF FLUOROPLAST-4 (I) SURFACES. I TREATED WITH THE COMPLEX HAD A SURFACE ACTIVE FILM, WHICH MADE I MORE SUITABLE FOR COATING WITH METALS AND GAVE IT SUPERIOR ADHESIVE AND MECH. STRENGTHS.

UNCLASSIFIED

USSR

UDC 621.382.2.029.64

DEMIDOV, V.K., KLINOV, B.N., KONTENKO, V.I.

"Semiconductor Diode-Displays Of The Submillimeter Band Of Radio Waves"

Elektron.tekhnika. Nauch.-tekhn.sb. Kontrol'no-izmerit.apparatura (Electronic Technology. Scientific-Technical Collection. Monitoring and Testing Equipment), 1971, Issue 1(22), pp 66-73 (from RZh--Elektronika i yeye primeneniye, No 11, Nov 1971, Abstract No 11B162)

Translation: Two polycrystalline layers of silicon are successively deposited on a graphite substrate: the lower 20 kilomicrons thick of p^+-Si doped with boron in a concentration of 10^{18} cm^{-3} , and the upper 0.2 micrometer thick of $p-Si$ with hole concentrations varying from 10^{17} cm^{-3} at the external surface to 10^{18} cm^{-3} at the boundary of the contact of the two layers of silicon. A tungsten needle was clamped to the top of the $p-Si$ film and in this manner semiconductor diodes were prepared which in the range of wavelengths of 0.27--1.5 mm had a voltage sensitivity of 0.5--1500 v/w and an output resistance from several kilohms to tens of ohms. The threshold value of the power in the 0.8-mm range is not worse than 10^{-10} watt. 6 ill. N.Y.

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USSR

UDC: 681.326

KUZNETSOV, V. A., ~~KONTORER, V. G.~~, TARANENKO, V. A., YAMPOL'SKIY, L. S.,
BRUNSHTEYN, Yu. G., KARLOV, A. G.

"A Digital Device for Measurement of Linear Displacements"

Kiev, Mekahnizatsiya i Avtomatizatsiya Upravleniya, No 2, Mar-Apr 73, pp
68-70.

Abstract: The Sevastopol' Instrument Building Institute has developed a device for measurement of linear displacements with output of the results of measurement in digital form. The device consists of a feeler threaded to mate with a revolving driver. As the driver turns to displace the feeler, the number of revolutions of the driver is sensed by counting the number of cycles of changing voltage in the circuit of a coil attached to the driver. The device can measure linear distances with an accuracy of ± 0.05 mm.

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USSR

UDC 621.385.652.01

MAN'KIN, I.A., KONTORIN, YU.F.

"Investigation Of The Effect Of Low-Frequency Modulation At The Beam Boundaries On The Spectrum Of The Output Signal Of A TWT (Abstract Of Deposited Manuscript)"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1970, Issue 12, pp 45-46 (from RZh--Elektronika i yeye primeneniya, No 4, April 1971, Abstract No 4A178)

Translation: The results are presented of a theoretical analysis by the wave law of the AM and FM output signals of a traveling-wave tube resulting from the low-frequency oscillations of the boundaries of the electron beam. Summary.

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UDC 621.396.95

USSR.

KONTOROV, DAVID SOLOMONOVICH; GOLUBEV-NOVOSHILOV, YURIY STEPANOVICH

"Introduction To Radar Systems Engineering".

Vvedeniye v radiolokatsionnuyu sistemotekhniku (cf English above), Moscow,
Izd. "Sov.radio," 1971. 368 pp. 57 fig. 1 tab. 49 ref. 1 r 33 k.

Abstract: The principal problems are considered of the theory of large radar systems which contain, spaced with respect to territory, groups of radar stations, units for processing information, and means for data transmission. On the basis of an analysis of the distribution of functions among the elements of the system, a classification of radar systems is conducted. A function of the effectiveness of large radar systems is proposed; the dependence is considered of the effectiveness on the quality indices and on the technical parameters of the system. The principal classes of radar systems are analyzed -- independent, noncoherent, videocoherent, coherent, and multistage. The principles and methods are stated of the operational control of a radar system in the process of its functioning. The concepts are stated which lie at the base of planning large radar stations according to the principle "effectiveness--cost." All numerical data and examples are selected by methodical considerations and bear an illustrative character. The book is intended for engineer-technical and scientific workers

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USSR

KONTOROV, DAVID SOLOMONOVICH; GOLUBEV-MOVOSHILOV, YURIY STEPANOVICH,
Vvedeniye v radiolokatsionnuyu sistemotekhniku, Moscow, Izd. "Sov. radio,"
 1971. 368 pp. 57 fig. 1 tab. 49 ref. 1 r 33 k.

working in the fields of systems engineering and the creation of large radar
 systems, and can also be helpful to students of senior course of radio engineer-
 ing higher educational institutes.

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USSR

KONTOROV, DAVID SOLOMONOVICH; GOLUBEV-NOVOSHILOV, YURIY STEPANOVICH,
Vvedeniye v radiolokatsionnuyu sistemotekhniku, Moscow, Izd. "Sov. radio,"
1971. 368 pp. 57 fig. 1 tab. 49 ref. 1 r 33 k.

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USSR

KONTOROV, DAVID SOLOMONOVICH; GOLUBEV-NOVOSHILOV, YURIY STEPANOVICH,
Vvedeniye v radiolokatsionnuyu sistemotekniku, Moscow, Izd. "Sov. radio,"
 1971. 368 pp. 57 fig. 1 tab. 49 ref. 1 r 33 k.

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USSR

KONTOROV, DAVID SOLOMONOVICH; GOLUBEV-NOVOSHILOV, YURIY STEPANOVICH,
Vvedeniye v radiolokatsionnuyu sistemotekhniku, Moscow, Izd. "Sov. radio,"
1971. 368 pp. 57 fig. 1 tab. 49 ref. 1 r 33 k.

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USSR

UDC: 681.335.5

KONTOROVICH, B. I., KOROVIN, A. N., RYABKOV, V. M.

"A Device for Multiplying Analog Quantities"

USSR Author's Certificate No 318951, filed 28 Jul 70, published 27 Jan 72
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 7,
Jul 72, Abstract No 7E491 P)

Translation: A device is known which contains a phase shifter, modulator, demodulator, and load. The trouble with the device is that the result of multiplication depends on the nature and magnitude of the load. The I/O characteristic is nonlinear, since the charge and discharge circuits of the parasitic capacitances and the filter capacitances are different. The purpose of the invention is to improve the operating precision of the device. The proposed unit uses a demodulator based on a four-transistor bridge circuit. The output winding of the modulator is connected between the pairwise joined collectors, and the load is connected between the pairwise joined emitters of the transistors. The bases of the transistors whose emitters are joined are connected through transformers to the phase shifter outputs. The transformer primaries are connected in series, and their common tiepoint is connected to the joined emitters.

1/1

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USSR

UDC: 621.396.6:621.316

KONTOROVICH, L. I., TYUL'NIKOVA, V. I., RUKUNOV, L. N.

"Some Parameters of SHF Ferrites as Related to Technological Factors During Hot Pressing"

Elektron. tekhnika. Nauchno-tekhn. sb. Ferrit. tekhn. (Electronic Technology. Scientific and Technical Collection. Ferrite Technology), 1970, vyp. 1 (23), pp 11-16 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V423)

Translation: An investigation was made of the technological singularities of hot pressing of SHF ferrites grades 4S411, 4S45 and 6S41, as well as the effect which basic technological factors have on density, microstructure and magnetic properties of ferrites. It was found in particular that increasing the pressing temperature from 1050 to 1200°C leads to a sharp increase in density, and also to an increase in the initial permeability and saturation induction, and to a reduction in coercive force. The results of the study gave a basis for selecting optimum conditions for hot pressing. The parameters of Y-circulators with hot-pressed ferrite inserts are given. Three illustrations, one table, bibliography of four titles. N. S.

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USSR

UDC 629.7.036.3-55(088.8)

KONTOROVICH, B. M., KOBLIK, L. M., GUSAKOV, V. I., ZAKIROV, R. F.

"A Device for Controlling Fuel Supply"

Author Certificate USSR, Class 46 f, 8/01 (F 02 c), No 276644, claimed 7.10.68, published 12.03.71 (from Referativnyy Zhurnal, Aviatsionnyye i Raketnyye Dvigateli, No 11, Nov 71, Abstract No 11.34.69 P)

Translation: There is patented a device for controlling the fuel supply, for example in a gas-turbine engine, containing a pump controlled by an rpm regulator with a hydraulic retarder, a throttling cock, kinematically linked with a control lever and a valve for maintaining a constant differential at the throttling cock. The device is distinguished by the fact that with the aim of ensuring operation of the engine without surge over the entire range of regimes, in the high-pressure main line is installed a dosing needle with a supplementary hydraulic retarder for damping the relief of the rotations at regimes below the start of automatic operation of the regulator. The device is distinguished by the fact that with the aim of decreasing the stopping time of the engine, an annular flow-through channel is constructed on the throttling cock for connecting the piston cavity of the dosing needle to the main overflow line. 1 figure.

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KONTOROVICH B.M.

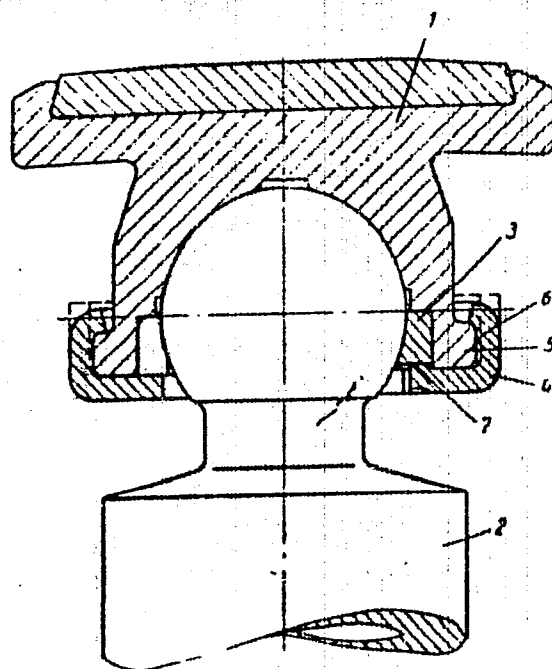
UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 1-70

242606 PLUNGER e.g. for fuel pump with spherical head, carrying a footstep bearing in the neck of which is a bracing ring, differing in the bearing having a shoulder to which is fastened a horseshoe-shaped frame of plastic to hold the ring. The ring and shoulder may have shaped slots for the frame to be pressed in. This gives a more reliable fixing of the footstep bearing. Footstep bearing 1 is connected to plunger 2 by bracing ring 3, fixed by frame 4. The material of the wall of the frame is crimped around shoulder 5 on the footstep bearing and pressed into slots 6 and 7 on the endface surface of ring 3 and shoulder 5.
2.1.68 as 1207319/24-6. POLIANSKII A.F. et al. (10.9.69)
Bul 15/25.4.69. Class 46f, 59a. Int.Cl.F 02c, F 05b.

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USSR

UDC 669.295.5.018.29:539.219.3

KONTOROVICH, I. YE., and KONOVA, V. F.

"Effect of Alloying Elements on the Nitration of Titanium Alloys"

Sb. tr. Mosk. vech. metallurg. in-ta (Moscow Evening Metallurgical Institute
-- Collection of Works), 1971, No 11, pp 301-304 (from Referativnyy Zhurnal
-- Metallurgiya, No 6, Jun 71, Abstract No 6I662 by A. Babayeva)

Translation of Abstract: The effect of V, Cr, Si, and Zr was studied on the diffusion and properties of Ti-Al alloys. Data are given on the properties of Ti alloys after nitration at 950° for 30 hrs. Alloying of Ti by vanadium to 2.1% with an Al content of 3.3-4.1% leads to the production of an entire depth of layer of 0.2 mm and an effective depth with $H_{\mu} > 600$ on the order of 0.055-0.075 mm. In alloys with 3.0-4.0% Al, permissible amounts of Si were to 0.2%. During alloying of Ti-Al alloys with silicon an increase in the depth of the nitrated layer was observed in comparison with alloys containing only Al. Diffusion of N into the alloy with $\alpha + \beta$ structure occurred more rapidly than in α -alloys since diffusion of N into the β -phase is greater. The microstructure of nitrated $\alpha + \beta$ alloy has a nitride zone, the α -phase is enriched by nitrogen, and the transition zone consists of a mixture of α -phase with the phase obtained as a result of the conversion

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KONTOROVICH, I. YE., and KONOVA, V. F. , Sb. tr. Mosk. vech. metallurg.
in-ta., 1971, No 11, pp 301-304

$\beta \rightarrow \alpha$ during the saturation of the β -phase by nitrogen. The
depth of the nitride zone in the $\alpha + \beta$ alloy is less than in the nitrated
 α -alloy.

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USSR

UDC 669.13.131.2

KONTOROVICH, I. Ye. (deceased), ROZHKOVA, Ye. V., GARBER, M. Ye., and TSYPIN, I. I., All-Union Scientific Research, Planning, and Technological Institute of Coal Industry

"On the Optimum Content of Carbon and Chromium in Wear-Resistant White Irons"

Moscow, Metallovedeniye, No 5, 1971, pp 45-46

Abstract: Effects of carbon (1.5-4.0%) and chromium (12.0-30.0%) on the wear resistance and strength of white irons are investigated and the results discussed. The wear resistance and strength of white irons are more affected by carbon than by chromium. White irons with a carbon content somewhat higher than the eutectic show the highest wear resistance, but their use is limited due to insufficient strength properties. These irons can be recommended for working under wear conditions without notable impact loadings. For parts of machines operating under conditions where a strength of $\sim 90 \text{ kg/mm}^2$ is required, white irons with a carbon content of no more than 2.8% and 12-18% Cr should be used. Three figures, five bibliographic references.

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USSR

UDC 621.762.2

AGRANAT, B. A., KONTOROVICH, L. Ye., NOVIKOV, N. I.

"Use of Ultrasound for Dispersion of Metal Oxide Powders"

Primeneniye Ul'trazvuka v Metallurg. Protsessakh [Use of Ultrasound in Metallurgical Processes -- Collection of Works], Moscow, 1972, pp 142-145, (Translated from Referativnyy Zhurnal, Metallurgiya, No 5, 1972, Abstract No 5 G478 by the authors) .

Translation: The possibility is studied of dispersion of oxides of Al, Hf, Y, Zr, and Th using a type UZVD-6 US installation, operating under conditions of high static pressure. The powders produced were used as a hardening phase in heat-resistant alloys based on carbonyl Ni. The dispersed Hf oxide powders facilitate increased long-term heat resistance of dispersion-hardened alloys to the greatest degree.

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USSR

UDC 621.372.45.001.5

KONTOROVICH, M.I., KARATYGIN, V.A.

"Some Problems Of Motion Stability In Pulse Schemes"

Radiotekhnika i elektronika, Vol XVII, No 6, June 1972, pp 1224-1233

Abstract: Some properties are investigated of the functions of a linear active two-terminal network. Consideration is given to two-terminal networks: (1) Stable in a regime of short circuiting of the input terminals; and (2) Stable with disconnected terminals. A four-terminal network enveloped by feedback is also studied. Examples are given of criteria which make it possible to judge the stability of equilibrium of a system. Particular attention is paid to the case where the output from the balanced state takes place "by jumps." 11 fig. 2 ref. Received by editors, 3 May 1971.

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